



ACME-CLEVELAND
CORPORATION
ANNUAL REPORT
1977





ALWAYS THINKING PRODUCTIVITY

Bees, especially the familiar honeybees, are highly industrious, attentive and productive. In a bee colony, each bee has a responsible job to do, and works at it constantly, efficiently, and for the welfare of others. Acme-Cleveland Corporation is in the business of improving its customers' productivity by supplying them with the most efficient and cost effective equipment and tools it can design and build. At the same time, Acme-Cleveland's people are constantly concerned with improving the productivity of their own operations.

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CORPORATION FILE

FINANCIAL HIGHLIGHTS

For the year ended September 30:

	1977	1976
Net Sales	\$218,192,000	\$194,089,000
Net Earnings	4,838,000	2,912,000
Earnings Per Common Share	1.08	.65
Dividends Per Common Share525	.50
Plant and Equipment:		
Expenditures	4,609,000	8,528,000
Depreciation	4,817,000	4,926,000

At September 30:

Long-Term Debt	42,195,000	38,850,000
Shareholders' Equity	84,256,000	81,800,000
Customer Order Backlog	143,650,000	75,389,000

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GENERAL COUNSEL

Thompson, Hine and Flory,
Cleveland, Ohio

AUDITORS

Ernst & Ernst

TRANSFER AGENT AND REGISTRAR

The Cleveland Trust Company,
Cleveland, Ohio

LISTING

Acme-Cleveland Corporation common shares are listed on the New York Stock Exchange under the ticker symbol AMT.

ANNUAL MEETING OF SHAREHOLDERS

The annual meeting will be held on January 26, 1978. Shareholders of record on December 8, 1977 will be entitled to vote. The notice, proxy statement and proxy for the meeting will be mailed to shareholders of record on or about December 28, 1977.

SEC 10-K REPORT

Copies of Acme-Cleveland's 10-K report, filed with the Securities and Exchange Commission, are available at no charge upon written request to the Secretary, Acme-Cleveland Corporation, P.O. Box 5617, Cleveland, Ohio 44101.

DIRECTORS

Arthur S. Armstrong
Chairman of the
Finance Committee
Acme-Cleveland Corporation

Ralph M. Besse
Partner—Squire, Sanders
& Dempsey, Law Firm
Cleveland, Ohio

Carleton Blunt
Retired
Delray Beach, Florida

Raymond E. Channock
Retired, formerly President
Acme-Cleveland Corporation

Charles W. Clark
Group Vice President
Acme-Cleveland Corporation,
and President of the
National Acme Division

W. Paul Cooper
President and Chief
Executive Officer
Acme-Cleveland Corporation

Robert R. Cosner
Consultant to
LaSalle Machine Tool, Inc.
Subsidiary of Acme-Cleveland
Corporation, Troy, Michigan

Jacob B. Perkins
Chairman of the Board
The Hill Acme Company,
Machine Tool Manufacturer,
Cleveland, Ohio

Karl H. Rudolph
Chairman and Chief
Executive Officer
The Cleveland Electric
Illuminating Company,
Public Utility
Cleveland, Ohio

Robert I. Sattler
Group Vice President
Acme-Cleveland Corporation,
and President of
LaSalle Machine Tool, Inc.
Subsidiary of Acme-Cleveland
Corporation, Troy, Michigan

Earl P. Schneider
Partner—Thompson, Hine
and Flory, Law Firm
Cleveland, Ohio



Mr. Perkins, Mr. Blunt, Mr. Cosner



Mr. Besse, Mr. Clark, Mr. Cooper



Mr. Schneider, Mr. Rudolph



Mr. Sattler, Mr. Armstrong, Mr. Channock

CORPORATE OFFICERS



Mr. Gardner, seated; Mr. Hatch, left, and Mr. Leckler, standing.



Mr. Munger, Mr. Hansen



Mr. Cowin, Mr. Schenkelberg, Mr. Tompkins



Mr. Harvey, Mr. von Wolff



Mr. Skove, Mr. Schiemann

W. Paul Cooper
President
and Chief Executive Officer

Herbert A. Gardner
Executive Vice President
and Chief Operating Officer

Charles W. Clark
Group Vice President
and President of
the National Acme Division

Robert A. Harvey
Group Vice President
and President of
The Cleveland Twist Drill
Company

Robert I. Sattler
Group Vice President
and President of
LaSalle Machine Tool, Inc.

Herbert von Wolff
Group Vice President
and President of
the Shalco Systems Division

Melvin A. Hansen
Senior Vice President

Lawrence R. Cowin, Jr.
Vice President—Finance
and Controller

Henry R. Hatch III
Vice President and Secretary

Harry H. Leckler
Vice President—Public
Relations
and Marketing Services

James E. Munger
Vice President—Personnel

Thomas M. Skove
Treasurer

James M. Tompkins
Assistant Secretary

Leonard W. Schiemann
Assistant Treasurer

Charles J. Schenkelberg
Assistant Controller

REPORT TO SHAREHOLDERS

Information about your Corporation's markets, products, operations, profitability and financial position is presented elsewhere in this report. Therefore, I will comment on our objectives, systems of management and future prospects.

CORPORATE OBJECTIVES

In our 1975 Annual Report the following major objectives were listed:

1. Improve the return on net assets employed in each of our operations. Make an orderly disinvestment of any plant or product which does not hold the prospect for satisfactory earnings.
2. Improve the financial strength of the Corporation through increased earnings, prudent management of working capital and reduction of debt.
3. Develop and efficiently employ all our human resources.
4. Establish and maintain efficient, highly productive facilities for all operations.
5. Market world-wide at an appropriate profit those products and services which best fulfill the needs of our customers.
6. Exploit all advantages inherent in the complementary nature of the Corporation's various products and technological abilities.

Our 1976 Annual Report included the statement, "We will not consider our performance to be satisfactory until we are earning, after taxes, at least 5% on sales and at least 15% on shareholders' equity."

PROGRESS

Significant progress toward these objectives was accomplished during fiscal year 1977. In the final quarter, July through September, earnings were at the rate of 4.1% on sales and 11.7% on shareholder equity.

Contributing to this improvement were:

1. Increases in shipments resulting from increases in new orders.
2. The elimination of unprofitable products and facilities and/or those with poor profit potential.
3. The implementation of profit-improving projects.

OUTLOOK

We expect total Acme-Cleveland sales in fiscal 1978 to exceed 1977 by approximately 18%.

Domestic ordering continues strong for most of our products. Expendable tool orders which recovered moderately in the Spring of 1976 have shown steady month-by-month improvement and currently are at a very good level. We have been successful in maintaining a high "off-the-shelf" service level for standard tools and reasonably prompt deliveries for special tools made to customer specifications. There is a possibility that new expendable tool orders will soften late in 1978.

Capital equipment order improvement began later than expendable tools and is continuing. Much of this ordering results from the redesign of automobiles in order to attain greater fuel economy. However, during 1978 there should be strong markets for our equipment in a wide range of other industries as our customers approach full utilization of present facilities and, more significantly, as they strive to reduce unit costs of their products.

We have not experienced any serious shortages of personnel, raw materials, components or energy at this time, and we do not expect major problems in 1978.

On the negative side, prospects for orders from Western Europe and Eastern Bloc countries are not very promising in the near term.

DIVIDENDS

In February 1975, the Board of Directors decided that until our debt position improved materially, it would be in the best long-term interest of shareholders to reduce the dividend from a rate of \$1.00 per year to \$.50 per year. At that time, payables to lenders, current and long-term, totaled approximately \$67,000,000. By the end of fiscal 1977, this amount had been reduced to \$43,800,000, and shareholder equity increased from \$77,300,000 at December 31, 1974 to \$84,200,000 at September 30, 1977.

In August 1977, the Directors increased the dividend 20% to an annual rate of \$.60 per share, recognizing the improved debt position and indicating confidence that a more satisfactory level of earnings was being established.

Each quarter, the Directors reexamine the dividend rate, taking into account our current earnings and our needs for working capital and investments in plant and equipment.

CAPITAL EXPENDITURES

Expenditures for property, plant and equipment during the 1977 fiscal year were \$4,608,876, or 46% less than the previous year. This slowdown in expenditures resulted largely from the fact that we have been taking a more comprehensive approach to certain capital projects. Engineering and economic studies of complete manufacturing systems for certain of our products are being conducted.

This approach requires more development and evaluation time, but enables us to obtain greater profit improvement benefits from existing technology. It promises more significant long-term gains than improving one operation or segment of a production process at a time.

RESEARCH & DEVELOPMENT

The plan for fiscal year 1978 includes a 24% increase in expenditures by Acme-Cleveland Development Company because of the attractiveness of several projects which are in process. We expect to accelerate this work in order to hasten the benefits.

HOW WE PLAN AND ADMINISTER

Because of the importance of anticipating the markets for our products, the Corporation's Director of Planning carries on a combination of economic forecasting and market analysis functions. These are subject to continuing review. He works with the Chief Operating Officer and managers of the various profit centers to develop operating plans. The plans include the anticipated rate of new orders, rates of production and purchasing, inventory changes and employment levels. These plans are then translated in detail into financial plans which include wage and salary administration projections, staffing requirements and all other elements necessary to

determine operating earnings and flow of funds. After adoption of the most realistic plans possible, the operating managers then undertake to select and carry out courses of action which will result in exceeding planned performance. Actual results are carefully monitored and compared with plans. Significant variances from plan are promptly translated into revised courses of action.

PRIORITY PLANNING

All major projects such as capital expenditures, new product development, new production method development, acquisitions, etc., are analyzed to determine all costs and investment requirements over the life of the project and also the anticipated contribution to earnings. The present value and real rate of return of each project are then calculated in order to assist in setting priorities for the allocation of resources so as to optimize earnings improvement. We try to maintain a balance of short-term and long-term projects.

EXTERNAL INFLUENCES

Over the years, Acme-Cleveland has developed a strong capability to manage those matters which can be controlled internally. However, every year, external influences make more serious incursions into our operations. Actions of governments which adversely affect our customers, our suppliers or our own operations are a continuing source of concern. The following are examples:

Inflation at rates exceeding those we have used in our forward pricing.

"Tax Reform" proposals which create uncertainty over the future of DISC, capital gains tax rates, investment tax credits, depreciation allowances, personal and corporate tax rates, and energy taxes.

Administration of such regulations as Environmental Protection, Occupational Safety and Health, ERISA and others.

Unanticipated increases in state and local income taxes, employment taxes, real and personal property taxes, sales and use taxes, and franchise taxes.

Currency fluctuations.

Changing availability and cost of export financing.

Because of the growing importance of government activity at all levels on the welfare of your Corporation, the officers of Acme-Cleveland are devoting more and more time and effort trying to communicate with the appropriate government people. We endeavor to present objectively and factually the effects of certain legislation or regulations on our Corporation, its shareholders, employees, suppliers and customers, as the case may be.

DEVELOPMENT OF HUMAN RESOURCES

Because of the increased level of business and because of the capital expenditures made by Acme-Cleveland in recent years, we were able to provide more jobs throughout our various operations and challenging new responsibilities for many employees.

All union contracts expiring during the year were satisfactorily renegotiated, except at our foundry tooling shop in Detroit, Michigan. Approximately 110 employees have been on strike since August 31, 1977, and at this writing there appears little prospect for agreement.



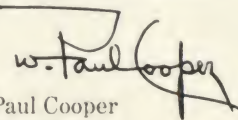
Your Corporation's management was strengthened with the advancement of Herbert A. Gardner to the job of Executive Vice President and Chief Operating Officer. Internal development and promotion have been and continue to be our chief sources of management and technical strength; however, we have been successful in adding several well qualified, experienced people from outside the Corporation who are making significant contributions.

I believe that the hardworking, skillful, responsible people who are Acme-Cleveland provide the basis for confidence in the future of our Corporation.

BOARD OF DIRECTORS

In order to better supervise the shareholders' investment in Acme-Cleveland, the Board of Directors has an Audit Committee and a Management Evaluation and Compensation Committee, each comprised of independent, non-employee directors. Also, there are an Executive Committee, Finance Committee and Pension Review Committee, each having employee and non-employee directors.

Mr. Ralph M. Besse, who has served on the Board of Directors of The Cleveland Twist Drill Company from 1959 through 1968 and on the Board of Acme-Cleveland Corporation since that time, will not stand for re-election at our next Annual Shareholders' Meeting because of the Board's retirement policy. The value of his contribution to the management of the affairs of the Corporation cannot be over appraised. Mr. Besse's keen perception of our changing world and thoughtful advice have contributed significantly to the Corporation's progress. I personally will continue to seek his counsel.


W. Paul Cooper

President and
Chief Executive Officer

December 8, 1977

MARKETS

The world of production is our market. Some manufacturers want to drill a tiny hole thousands of times daily, like an air valve for a tire. Some want to machine complex metal parts, like a carburetor shaft — millions of them, precisely alike, year in, year out. Others want an entire production system, as fully automated as possible, that does everything from casting and machining a part to packaging that part.

These are typical of the markets for Acme-Cleveland products.

Our products to serve these markets are the tools of productivity: cutting and threading tools, automatic multiple-spindle bar and chucking machines, mechanized foundry equipment and foundry tooling, electrical and electronic controls, and total manufacturing systems. They are used with all types of manufacturing materials. They help make many of the products that improve the quality of life throughout the world.

Our marketing job is to get Acme-Cleveland products into the factories and shops of thousands of highly-diversified and widely-dispersed manufacturers.

Control of this effort is achieved through a centralized marketing function at the corporate level. In this manner, operating divisions which share common customers are able to serve them more effectively with their own product lines and, at the same time, present the



related capabilities of the Corporation. This benefits customers who need the products and technical skills of more than one division. Since considerable engineering is required for many of our products, this one-source availability means better service for customers and a stronger competitive position for Acme-Cleveland. Now in progress is a program to establish a regional corporate service center in the Detroit area. We expect to set up others in the future. Established division selling channels will continue to be utilized, such as the traditional industrial distributor-to-user channel by Cleveland Twist Drill.

A plus factor will be strong corporate support in advertising, marketing and related activities.

Wherever manufacturing needs exist, there is a market for Acme-Cleveland products. The automotive, capital equipment, and screw-machine products industries represent our principal markets. But newer industries, such as aerospace, electronics, health, and environmental sciences also need our products, systems and skills.

In spite of the serious economic recession in Western Europe and the resultant low level of business available to us, we have not reduced our marketing efforts in this area or in the Eastern Bloc countries. We intend to pursue and develop this business even more aggressively now and in the future.



CUSTOMER SERVICE

Productivity is a concise way of describing *output per manhour*. Maintaining it, improving it are the main concerns of manufacturers, especially those in America, where the free enterprise system requires rising productivity to sustain economic health. Acme-Cleveland's business is supplying manufacturers with the tools of productivity, and our success in this business depends heavily on how effectively we perform the ever-broadening group of activities known as Customer Service.

It's been this way since we started in 1876. In our early days, customer service meant a horse-drawn wagon bumping over muddy streets in Cleveland to deliver a set of twist drills from the factory to a customer a few miles away.

Today, transportation is still very much an important ingredient of our customer service. We use the fastest forms of modern surface and air transport facilities, both commercial and Corporation-operated, for the distribution of our products. But transportation is only a part of the customer service effort.

Bringing into play an assortment of services, including Video Data Transmission (VDT), an order from a west-coast customer for a non-stock item, a reamer, for example, altered from a semi-finished blank to special dimensions, can be on our production floor an hour later,



completed and shipped to the customer the next day. All Acme-Cleveland warehousing and distribution centers and most district sales offices and stockrooms have VDT equipment. So does the automated parts distribution center in Fremont, Ohio where orders for machine replacement parts are filled by mechanized equipment. Computers direct much of the order flow — the processing, specifications, auditing, billing — even guiding parts-pickers through high-rise storage units at the Fremont center to select and convey the parts specified. A new consolidated corporate services facility in the planning stages for Detroit, Michigan, will be similarly VDT-equipped and will offer customers the advantage of drawing upon all the resources of the Corporation in one location. Detroit was chosen for this first regional center because of its proximity to a large part of our marketplace.

A customer with a machine down because a part or cutting tool is needed, or in the midst of a model changeover, or rebuilding to meet OSHA or other regulations is struggling with a productivity problem and needs help. Our customer service is responsive to these needs.

Training schools for salespeople, research and development on materials and methods, expeditious quotation and proposal handling, and other activities are significant parts of our customer service effort.





Cleveland tools perform multiple cutting and threading operations in sequence in a numerically-controlled machine.

CLEVELAND TWIST DRILL Cutting and Threading Tools

The metalworking industry is constantly demanding improved production tools to machine harder metals. For more than a century, Cleveland Twist Drill has been meeting—and anticipating—these needs by developing and manufacturing better cutting and threading tools. 1977 was no exception as this division continued to improve and augment its tool lines as follows:

- added two lines of cobalt high-speed steel drills, one straight shank taper length, and another in screw machine lengths;
- introduced a line of tool bits made from powdered metals;
- added a new line of solid carbide commutator saws and insert chaser holders for die heads;
- expanded its lines of metric taper length straight shank drills and metric screw machine length drills;

- enlarged its precision slide line to include Type K ball slides;
- added semi-special hexagon rethreading dies, solid adjustable dies, and carbide tipped reamers to CTD's rapid-service manufacturing and shipping program.

Cleveland Twist Drill manufactures the largest line of expendable cutting and threading tools in the world—more than 40,000 stock items and millions of custom tools made to customer specifications. With such an extensive line—and the resourceful engineering behind it—customers world-wide have come to rely on Cleveland Twist Drill for advanced solutions to productivity problems which involve cutting and threading tools.

Equal to this division's high quality products is its service—a factor of extreme importance in metalworking where even brief machine downtime for want of a tool is intolerable. Cleveland products are sold through over 600 industrial distributors located throughout the United States and Canada. Distributors add the very real value of local availability of

tools to industrial users and service their needs on a regular basis with qualified personnel. Large stocks of standard items also are maintained at division warehouses to back distributor inventories.

Supporting these field inventories is an advanced communications network that joins all of the division's manufacturing and stocking locations. Orders are transmitted in seconds, and the availability of specific tools becomes known quickly through computer systems.

Distributor training is provided by the division, using electronic educational techniques.



*Cleveland milling cutters
deliver long cutter life and
high productivity.*



The Acme-Gridley 1-3/8" AG-6 "Advanced Generation" automatic six-spindle bar machine.

NATIONAL ACME Machine Tools

Acme-Gridley machines helped propel the Industrial Revolution forward more than three-quarters of a century ago. They were the first multiple-spindle automatic bar machines and have been the leading machine tool of this kind ever since. Their role in advancing productivity has been and continues to be substantial.

Wherever automatic machining of complex metal parts, from castings, forgings, bar stock or tubing, is being done, Acme-Gridley bar and chucking machines are the leading choice, by screw-machine job shops and by manufacturers operating their own departments. The automotive industry, a large user of Acme-Gridleys throughout its history, again in 1977 included substantial numbers of these machines in their programs of down-sizing automobiles, including engine and drive-train components. Shipments against these orders have begun and will continue for some time.



Spark plug shells are produced by the millions on Acme-Gridley automatic multiple-spindle machines.

While the new generation of Acme-Gridleys work on the same principle as the first machine, they are a far cry from the original in productivity, ease of operation and safety. Acme-Gridleys had carefully-engineered safety features long before guidelines were established by the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA), and now these machines can be furnished with sound-attenuation equipment that places them well within the established limits. Still, as with other areas where improvements are desirable, we continue to give major attention to noise control and related problems.

Availability of machine service parts is a key factor in keeping production downtime to a minimum. To accelerate the distribution of these parts and improve service to our customers, the entire inventory and order handling for them were transferred during the year to the new, highly automated Acme-Cleveland parts distribution center in Fremont, Ohio. Another move toward better management of inventory and scheduling was in more effective use of computers at our factory.

New products during 1977 included a new single or multi-point thread-chasing attachment capable of producing complicated thread forms, with improved quality at less cost than by any other method.



14-Station in-line type LaSalle transfer machine for disc brake rotors. It semi-finish and finish turns the disc faces and wheel mounting faces on front disc brake rotors.

LaSALLE MACHINE TOOL Total Manufacturing Systems

For half a century, LaSalle Machine Tool has been boosting productivity as a supplier of transfer and other type special machines, including total manufacturing systems, to some of America's best-known industrial companies. 1977 saw increased demand for them. These systems frequently incorporate a considerable number of the products of other Acme-Cleveland divisions.

One system engineered and manufactured this year for an automobile producer was a rack and pinion steering assembly. This fully-automated system brings together the various components of the steering assembly, then assembles and gages the parts, leak-tests and load-tests the assembly, and, finally, function-tests the assembly.

Principal industry trends during 1977 were these:

- A sharp rise in demand for LaSalle equipment from the automobile industry, attributable to the critical energy situation. Automakers are committed to smaller and lighter cars, requiring substantial design changes.
- Expanded use of LaSalle systems by farm and off-road vehicle producers for making pistons, connecting rods and other parts and assemblies.
- Increased use by the power hand tool industry of LaSalle equip-

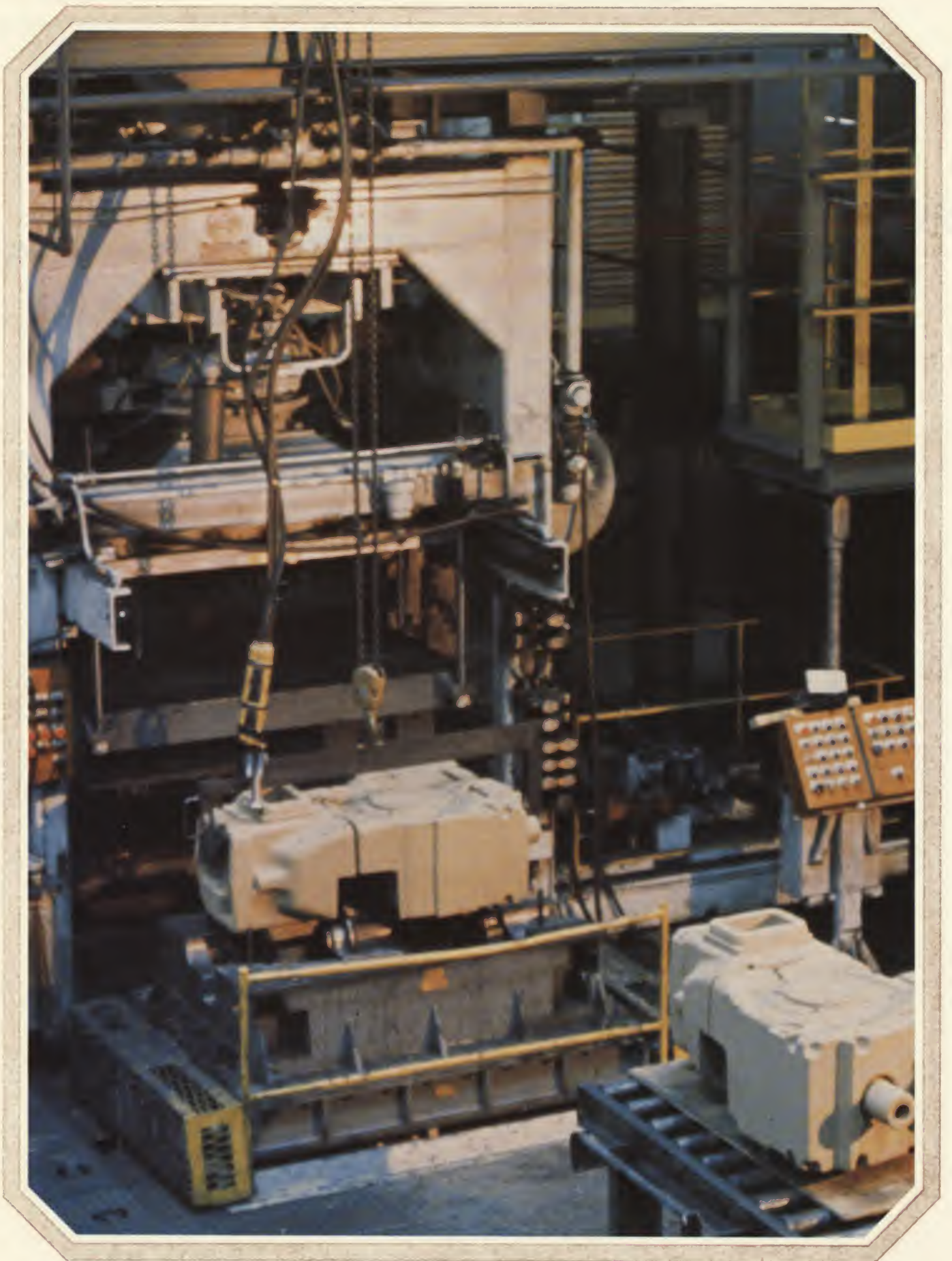
ment for producing engine pistons.

In anticipation of an unprecedented volume of business, LaSalle late in calendar 1977 moved sales and other technical and administrative offices to a single, larger building in Troy, Michigan where such functions as estimating and proposal engineering, production control, purchasing, manufacturing engineering and product development will have ample quarters. This will also allow substantial expansion of production areas at the Warren, Michigan facilities.

Additions also were completed at two plants, in Davisburg, Michigan and Windsor, Ontario, Canada.



*Typical automotive parts
produced by LaSalle total
manufacturing systems.*



Shalco 4-106 automatic "Cold Box" process machine produces tractor transmission housing cores weighing up to 480 pounds.

SHALCO SYSTEMS

Foundry Equipment and Systems

Shalco Systems was started nearly a quarter century ago with a new process for producing foundry shell core and mold machines that proved so successful Shalco rapidly became a front-runner in an industry steeped in traditional methods.

In the intervening years, Shalco continued its originality in the foundry equipment field, and in 1977 introduced new products that are as significant for their contribution to energy conservation as they are to productivity improvement.

Shortages of natural gas forced many companies to de-emphasize the use of older gas-fired machines for making cores and molds, required in large quantities by heavy industries for producing all types of castings — non-ferrous, steel and gray iron. Earlier, Shalco had developed a "cold box" process, sharply different in operating principle from the conventional hot box process used in the foundry

industry for a long time. Upon introduction, the Shalco U-180 cold box core-making machine and a U-180 cold box conversion kit received good reception from the industry. Both operate without natural gas.

Although the new cold box machines generate no objectionable heat for the environment, they do exhaust amine gas, which requires treatment. For this purpose, Shalco developed and markets a new model scrubber which removes the amine gas from the air. This scrubber is designed to meet current environmental requirements.

The introduction of these new energy-saving products has enhanced Shalco's position as a leader in the foundry equipment industry world-wide. Shalco markets its line, which also includes equipment for mixing the sand and liquid binders that are poured into the core and mold machines, through its own sales organization. Sales are to independent foundries and to manufacturers with their own foundry operations. The division has the capability of designing, building and installing complete foundry systems. More and more, customers are giving Shalco engineers full responsibility for producing foundry systems on "turnkey" contracts.

As holds true for other Acme-Cleveland divisions, the transition now taking place in the automotive industry in the United States, to tool up for smaller, lighter-weight cars, is also benefiting Shalco Systems. Substantial increases in this division's productive capacity, made in the two previous years, are now in service. This division also acquired during the year the manufacturing rights to the "Titan" line of core-making machines, an established domestic line of machines.

Internationally, Shalco has developed good markets for its products in many countries. In Europe, where trade shows always have represented an important sales medium for Shalco, the division participated in two large shows in 1977—the Foundry "77" exhibit in Birmingham, England, and the "Poznan Fair" in Poznan, Poland. Results from both shows were excellent.



Locomotive piston cores for Diesel engines.



Multiple-head machine designed and built by Automotive Pattern to produce core boxes and patterns of uniform accuracy.

FOUNDRY TOOLING

Core Boxes, Patterns and Fixtures; Permanent and Semi-permanent Molds and Related Equipment

Where machining of metal castings is required, much opportunity for productivity improvement exists prior to the point where metal parts enter machining and finishing operations. This first step in the process involves foundry tooling and patternmaking, specialties of the Foundry Tooling Division and its supportive operations, Automotive Pattern, Detroit, Michigan, Bluewater Tooling, Port Huron, Michigan, and Foundry Tooling, West Germany.

This division offers complete tooling service for industry's casting needs, including any

necessary engineering, pattern design and manufacturing.

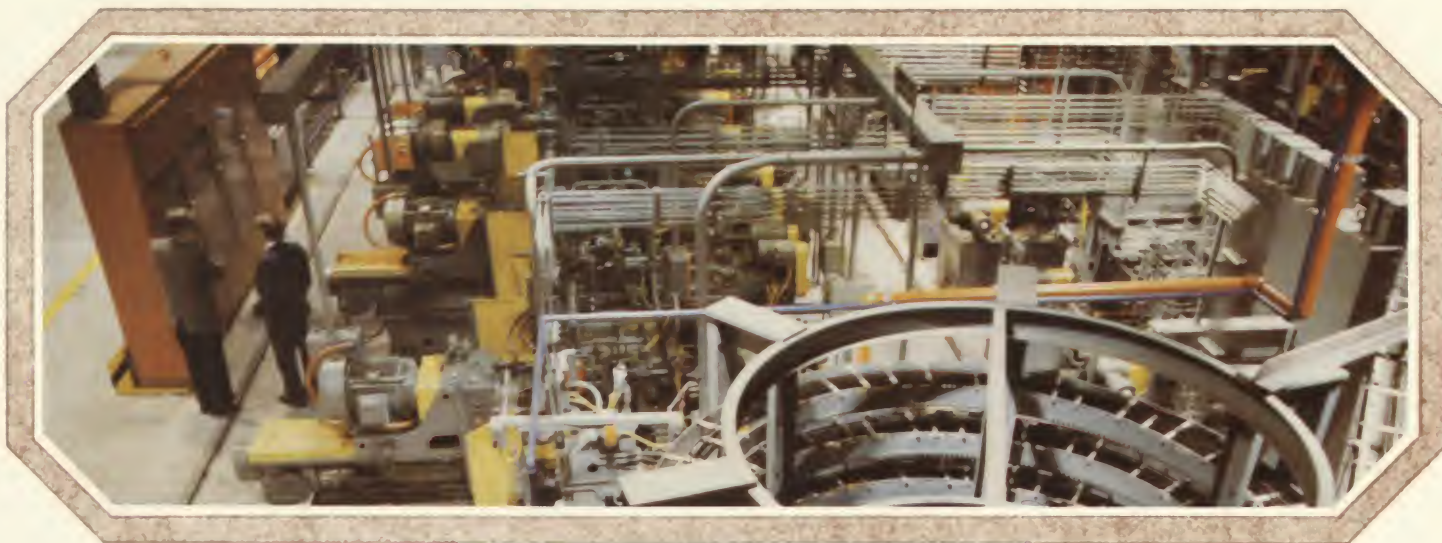
The traditional method of making castings is to pour hot metal into molds, cool, remove, then machine. This makes the dimensional accuracy of the molds highly important, as the closer the casting is to the desired finished tolerances, the less machining will be necessary. The metal tooling for producing castings of consistent

high quality, therefore, becomes a key to successful and efficient foundry operations. For every cast part, a master metal model is made, and from this the production tooling is fabricated.

The smaller cars and lighter engines now in prospect will require substantial new production tooling. Automotive Pattern has served the automobile industry for many years and recently has expanded its capabilities by building additional patternmaking machinery in order to be adequately equipped for a larger volume of business.



Lower half of pattern for making sand molds for casting automobile crankshafts.



Total manufacturing system is controlled and monitored by Namco switches and controls.

NAMCO CONTROLS Electrical and Electronic Controls

Productivity is largely a matter of motion and speed. But it also is a matter of *controlling* that motion and speed. The Namco Controls Division manufactures and markets a quality line of electrical and electronic controls, sold to many customers directly or through electrical distributors, and also used by other Acme-Cleveland divisions on machines and production systems manufactured for their customers.

Namco Controls are the "brain" in the productivity flow. For example, they can start or stop a machine, trigger movement of stock, change speeds, direct conveyors, signal danger or trouble, check quality, count, sort, prevent accidents and shutdowns, direct an entire manufacturing

system, and do hundreds of other productivity control jobs.

The Namco product line includes limit switches, solenoids, coils, proximity switches, panel switches, and complete solid-state control systems. Proximity switches are the fastest growing group, and include capacitive as well as inductive and magnetic types. These non-contact switches sense the presence, absence, or approach of virtually any target object or material, regardless of composition.

The trend in industrial controls continues to be toward solid-state electronic devices. Among the new products developed or introduced by Namco during the year were:

- Non-contact electronic limit switches for the automotive industry. These 2-wire, 115V A.C. switches can directly replace conventional electro-mechanical devices.
- A switch for indicating piston position in a cylinder. This non-contact electronic device can be installed on most air or hydraulic cylinders.
- An electronic proximity switch to signal a broken tool. For

example, when a drill or milling cutter in an automatic machining sequence has broken, the sensor gives a signal, calling for tool replacement, stopping the machine immediately to prevent damage or faulty parts production.

- Heavy-duty electro-mechanical limit switches for the electric power generating industry. Primarily, these are used to indicate position of valves and air flow dampers and other key operating parts.
- High-quality molded coils. New molding and coil-winding equipment and methods have opened up new markets for high-volume, high-quality, yet low-cost coils. These are now being supplied in quantity for use as solenoid coils on air valves.

Sizable markets—in some cases new for the division—exist for these new products.



Flex-Lock limit switches are heavy duty and ideal for manufacturing control operations.

ACME-CLEVELAND DEVELOPMENT COMPANY Research and Development

Acme-Cleveland Development Company (ACDC)—the research and development wing of the Corporation—has far-reaching influence on the world of production, through new and improved products developed for the six operating divisions to sell to customers, and also through new manufacturing technology developed for use *by* the operating divisions to increase their own manufacturing efficiencies.

This R & D division—physically isolated from all operating divisions and with sophisticated capabilities in the key scientific fields as they relate to production—concentrates its principal efforts on practical problems, short- and long-range, the solutions to which have significant favorable impact on Corporate earnings. In the new product area, for example, ACDC in 1977 assisted Cleveland Twist Drill in improving its tool line by manufacturing-process modifications and metallurgical restruc-

turing; contributed significant improvements to Namco Controls' proximity switches, broadening the applications for these versatile switches; and aided in developing refinements in the new AG-6 Acme-Gridley multiple-spindle automatic bar machine, which achieved substantially higher productivity upon being placed in service by National Acme customers.

In another ACDC basic area—developing better manufacturing processes for more efficient production by our own divisions—a number of improvements were designed and installed at various plants during 1977. These, too, have the primary objective of reflecting directly and importantly in Corporation earnings.

Over the four years that ACDC has been a separate R&D division, its testing and metallurgical development activities have

provided significant machinability data. The high reliability of such data is of benefit to all divisions, particularly to LaSalle Machine Tool and National Acme as it enables them to utilize validated productivity figures in their complex quotations with the assurance that productivity goals will be reached.

With the realities of greater productivity an ever-present challenge, both for customers and ourselves, ACDC is programmed to continue its emphasis on ambitious yet practical projects targeted to have significant profitable results for the Corporation.



Sophisticated optical instrument is used for examining flat, polished and etched surfaces of metal or ceramic specimens at high magnification.

Silicon content determination—one of many chemical analyses conducted on tool steels.

PRODUCTIVITY IS OUR BUSINESS

Acme-Cleveland Corporation is in the business of designing, manufacturing and selling the tools of production. These tools are of two general types — capital equipment and expendable tools — which are used by manufacturers to make a wide variety of components and end products.

Capital equipment produced includes transfer machines; automatic multiple-spindle bar and

chucking machines; machines, tooling and supplies for the foundry industry; electrical and electronic controls; and total manufacturing systems. Expendable tools include cutting and threading tools.

Heavy industries, such as automotive, construction and farm equipment, and the foundry and screw-machine products industries, are major markets for the capital equipment line, while the expend-

able tool line is sold extensively to a broad range of users.

While the Corporation's major products are marketed individually by the respective manufacturing divisions, an integrated approach to customers' requirements for equipment and tooling is used. A major objective of the Corporation is to involve the total resources of all divisions in supplying a complete manufacturing system.

QUARTERLY DATA

Sales, Net Earnings, Common Shares
Fiscal years ending September 30

Dollars in thousands except per share and stock price data		First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
		October-December		January-March		April-June		July-September	
SALES	1977	\$45,333		\$53,195		\$61,107		\$58,557	
	1976	48,289		49,448		45,600		50,752	
NET EARNINGS	1977	\$ 128		\$ 1,171		\$ 1,134		\$ 2,405	
	1976	642		365		1,257		648	
EARNINGS PER SHARE . . .	1977	\$.03		\$.26		\$.25		\$.54	
	1976	.14		.08		.28		.15	
SHARE PRICES (NYSE) . . .	1977	High	Low	High	Low	High	Low	High	Low
	1976	8¾	8½	9¾	9½	12	11¾	13¾	12¾
DIVIDENDS PER SHARE . .	1977	\$.125		\$.125		\$.125		\$.15	
	1976	.125		.125		.125		.125	

SIX-YEAR SUMMARY OF OPERATIONS AND STATISTICAL REVIEW

Acme-Cleveland Corporation and Subsidiaries
Fiscal years ending September 30

	1977 (1)	1976 (1)	1975 (1)	1974 (1)
Summary of Operations				
Net Sales	\$218,191,699	\$194,088,642	\$231,489,665	\$169,442,363
Cost of Products Sold	160,159,308	143,008,384	170,670,207	126,022,710
Interest Expense	4,397,038	5,027,068	6,919,170	3,486,962
Earnings Before Taxes	8,753,201	5,389,716	12,771,490	10,493,880
Income Taxes	3,915,000	2,478,000	5,816,000	4,785,000
Net Earnings	4,838,201	2,911,716	6,955,490	5,708,880
Net Earnings to Net Sales	2.2%	1.5%	3.0%	3.4%
Earnings per Common Share	1.08	.65	1.56	1.43
Dividends Paid (2)	2,382,458	2,272,210	2,823,460	3,985,976
Cash Dividends Paid per Common Share525	.50	.625	1.00
Other Financial Information				
Current Assets	123,794,140	100,570,415	129,200,969	133,731,029
Current Liabilities	41,166,527	26,264,216	46,884,880	47,980,021
Working Capital	82,627,613	74,306,199	82,316,089	85,751,008
Property, Plant, and Equipment — Net	44,352,655	44,259,575	47,054,224	43,890,446
Capital Expenditures	4,608,876	8,528,286	8,235,977	5,968,552
Depreciation	4,817,117	4,925,867	4,757,590	3,706,216
Long-Term Debt	42,195,043	38,849,752	45,153,231	51,075,644
Shareholders' Equity (Net Worth)	84,255,799	81,800,056	81,160,550	77,028,520
Shareholders' Equity per Common Share	18.92	18.37	18.22	17.28
General Information				
Average Number of Common Shares Outstanding	4,410,017	4,410,017	4,410,017	3,969,178
Number of Shareholders — Year End	6,492	7,001	7,530	7,742
Number of Employees — Year End	5,568	5,449	6,448	7,200

(1) Includes LaSalle Machine Tool, Inc., purchased as of July 1, 1974.

(2) Includes quarterly dividend requirement for Preferred Shares issued June 28, 1974 of \$67,192 in 1977, 1976, and 1975, and \$16,798 in 1974.

REVENUE AND EARNINGS (LOSS) BEFORE INCOME TAXES BY LINES OF BUSINESS

(In Thousands of Dollars)
Fiscal years ended September 30

	1977		1976		1975		1974	
	Revenue	Pre-Tax Earnings	Revenue	Pre-Tax Earnings	Revenue	Pre-Tax Earnings	Revenue	Pre-Tax Earnings
Capital Equipment(3)	\$138,403	\$ 171(1)	\$120,883	\$(1,973)	\$156,619	\$ 8,730	\$ 90,662	\$ 1,663
Expendable Tools	79,789	8,582	76,845	7,363(2)	77,704	4,041	81,161	8,831
TOTAL	\$218,192	\$8,753	\$197,728	\$ 5,390	\$234,323	\$12,771	\$171,823	\$10,494

(1) Includes \$3,000,000 loss on disposition of Italian subsidiary.

(2) Includes \$1,309,000 net gain on disposition of subsidiaries.

(3) Includes LaSalle Machine Tool, Inc. beginning as of July 1, 1974, the date of purchase.

FINANCIAL REVIEW AND MANAGEMENT DISCUSSION

1973	1972
\$127,850,966	\$96,001,120
90,417,166	68,541,413
991,969	782,509
12,563,828	6,056,604
5,876,000	2,879,000
6,687,828	3,177,604
5.2%	3.3%
1.74	.83
3,148,280	3,075,786
.82	.80
72,362,351	58,323,627
27,206,073	15,768,995
45,156,278	42,554,632
31,169,157	29,863,420
5,023,718	4,089,657
3,234,652	3,046,095
9,679,581	8,829,364
66,855,616	63,600,922
17.42	16.54
3,836,847	3,844,732
7,604	7,632
5,554	4,912

1973	Pre-Tax Earnings	1972	Pre-Tax Earnings
\$ 61,496	\$ 3,279	\$47,065	\$1,775
69,020	9,285	51,055	4,282
<u>\$130,516</u>	<u>\$12,564</u>	<u>\$98,120</u>	<u>\$6,057</u>

REVENUES AND EARNINGS

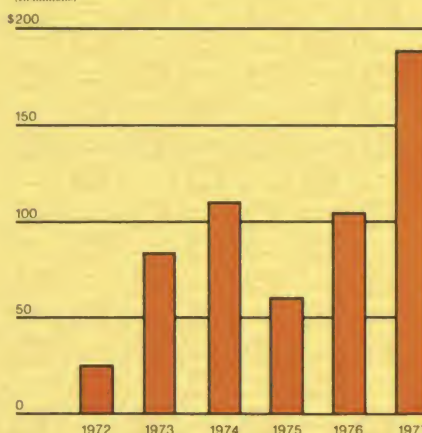
Consolidated net sales for fiscal 1977 increased \$24 million, or 12%, over fiscal 1976, even though 1977 figures did not include any shipments from the British, Dutch or Italian subsidiaries. The first two were terminated or sold in the last half of fiscal 1976, while the Italian subsidiary was in liquidation throughout fiscal 1977. In fiscal 1976 these subsidiaries accounted for sales of approximately \$12 million. The 1977 sales improvement resulted from a 79% increase in new orders booked over the previous year, as well as from increases in selling prices. As a result of the strong order inflow, the order backlog as shown by the accompanying chart was 91% higher at the end of fiscal 1977 than it was at the close of the previous year, with almost all of the increase coming in the capital equipment line. Sales for the capital equipment line in fiscal 1977 were \$17 million, or 14%, higher than in fiscal 1976. Expendable tool sales were \$3 million, or 4%, higher than for the previous year despite the absence of the British and Dutch operations. While the relationship of cost of products sold to sales remained about the same from fiscal 1976 to fiscal 1977, considerable improvement was made in the ratio of selling, administrative, and general expense to sales, due in large part to the elimination of overhead costs of the European subsidiaries. Cost of products sold increased in absolute terms in 1977 due to higher shipment volume in the capital equipment line and inflation. Maintenance and repair expense and payroll taxes were all greater because of higher payrolls and greater utilization of facilities.

Real and personal property taxes decreased because of relocation of inventories and changes in tax laws and rates.

Depreciation expense decreased reflecting the lower level of additions to property, plant, and equipment in fiscal 1977 and the disposal of the fixed assets of the British, Dutch, and Italian subsidiaries. Interest expense decreased \$630,000 from 1976 due to lower effective interest rates and the absence of interest expense from the eliminated European subsidiaries.

Pre-tax earnings for the capital equipment line improved considerably over fiscal 1976, particularly when the \$3 million pre-tax charge for the loss on the liquidation of the Italian subsidiary is taken into account. The higher sales level was the primary cause of the improvement. Earnings from expendable tools increased due to larger sales volume and better margins. The effective income tax rate declined from 46.0% in 1976 to 44.7% in 1977, even though no benefits resulted from the Company's DISC, and the investment credit was smaller in 1977. The difference between

New Orders Booked
(In millions)



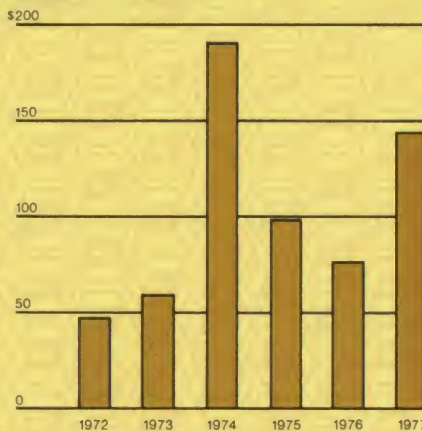
FINANCIAL REVIEW AND MANAGEMENT DISCUSSION

the two years is due primarily to the effect of foreign income taxes. Recording the loss on liquidation of the Italian subsidiary produced a \$2.4 million federal income tax credit.

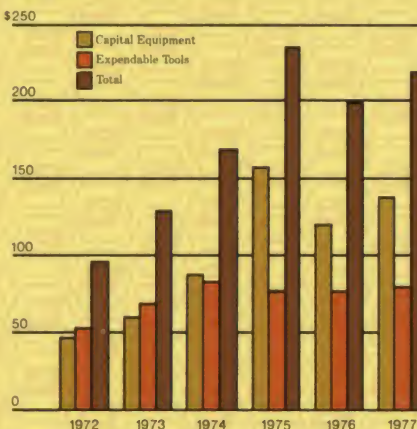
In fiscal 1976, net sales decreased \$37 million, or 16.2% from fiscal 1975. The chart shows that this decline was in the capital equipment line. Backlogs of capital equipment orders provided a substantial part of 1976 shipments as the inflow of new orders slackened. Shipments of expendable tools remained constant as the economic recession abated. Cost of products sold as a percentage of net sales remained the same in 1976 as in 1975, even though the total declined due to lower shipment volume. Maintenance and repair expenses were less as a result of decreased utilization of facilities. Real and personal property taxes increased due to higher rates and taxation bases. Depreciation expense was greater because of larger capital expenditures. Interest expense declined \$1.9 million from 1975 due to lower interest rates and significant reductions in the level of borrowings.

Capital equipment operations produced a loss of almost \$2 million in 1976 in contrast to \$8.7 million of pre-tax earnings in 1975. This decline was due to lower shipment volume. The increase of 82% in expendable tools earnings over fiscal 1975 reflected improved margins on product, elimination of low return

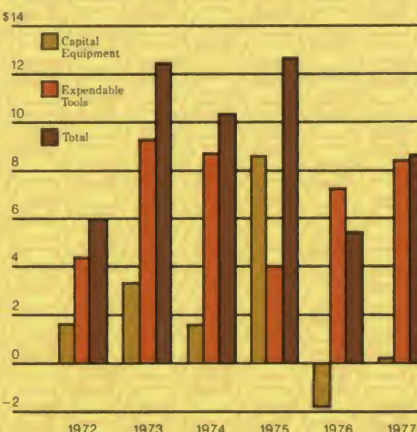
Customer Order Backlog
(In millions)



Net Revenues by Lines of Business
(In millions)



Pre-Tax Earnings (Loss) by Lines of Business
(In millions)



or loss operations, and gains from the disposition of the British and Dutch operations. The income tax rate increased from 45.5% for 1975 to 46.0% of pre-tax earnings for 1976, primarily because the reduction in credits attributable to DISC earnings more than offset increases in the investment credit and in the net effect of income taxes relating to foreign subsidiaries.

CAPITAL EXPENDITURES AND DEPRECIATION

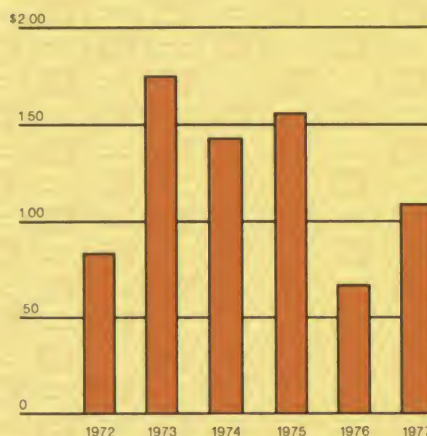
Acme-Cleveland spent \$4.6 million for capital assets in fiscal 1977, as the Corporation continued to strive for more efficient, lower cost production facilities. The level of capital expenditures decreased from fiscal 1976 due to the absence of large scale projects of the type completed in the previous two years. Depreciation in the same period of \$4.8 million represented 105% of total capital expenditures. Depreciation is determined generally on the straight-line method using estimated useful lives of plant and equipment. The most advantageous accelerated rates of depreciation available are used for federal income tax purposes, which increases cash flow. In a period of rising prices such as 1977, the dollar amount of depreciation is even less adequate than in a more normal year for the

restoration, at current prices, of the real assets consumed in production. This year, the Corporation estimated the replacement costs of plant and equipment and the related effects of such costs on the depreciation expense for the year. Specific information with respect to 1977 replacement costs is included in the Corporation's Form 10-K report which is filed with the Securities and Exchange Commission.

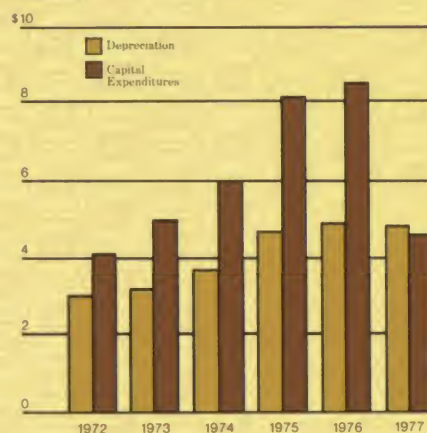
CAPITAL STRUCTURE

The chart shows the changes that have occurred in Acme-Cleveland's capital structure. At the end of fiscal 1977, long-term debt accounted for 34% of capital as compared to 32% for 1976. Capital is defined as the sum of shareholders' equity and long-term debt. During 1977, debt consisted principally of long-term notes issued to four insurance companies, bank loans under a revolving credit agreement and industrial revenue bonds. The increase in the total of such borrowings resulted from increased working capital needs. The funds from the sale of industrial revenue bonds for the new Parts Distribution Center were received in December, 1976, and were used to replace \$4.2 million of bank loans. During 1977, certain equipment leases amounting to \$228,000, previously classified as operating leases, were accounted for as capital leases and added to the total of long-term debt

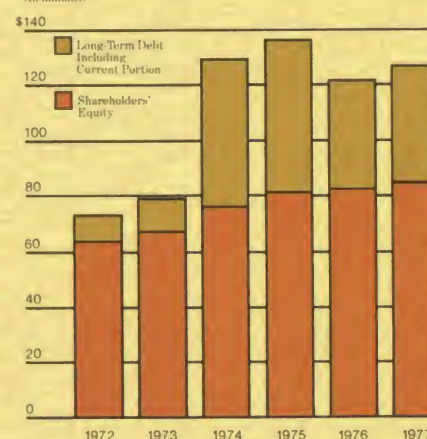
Earnings per Common Share



Capital Expenditures and Depreciation
(In millions)



Capital Structure
(In millions)



outstanding. Note E to the consolidated financial statements gives further detail of these long-term debt agreements.

It continues to be Acme-Cleveland's policy to have foreign subsidiaries borrow working capital needs, if possible, in their home countries. This procedure minimizes exposure to currency exchange gains and losses resulting from the transfer of funds from the United States.

WORKING CAPITAL

Working capital at the end of fiscal 1977 was \$82.6 million, which represents an increase of \$8.3 million from the end of fiscal 1976. Current assets, particularly inventories and receivables, increased more than current liabilities. The significant expansion in inventories and receivables resulted from higher order levels and inflationary pressures. The ratio of current assets to current liabilities was 3.01 at the end of fiscal 1977 compared to 3.83 at the end of the previous year. Overall, established credit policies have been closely adhered to and collection experience remains good. The Corporation continues to hold its top credit rating by prompt payment of accounts payable.

**CONSOLIDATED
BALANCE SHEET**
Acme-Cleveland Corporation and Subsidiaries

		SEPTEMBER 30	
		1977	1976
ASSETS			
Current Assets			
Cash	\$	3,789,857	\$ 7,461,877
Marketable securities — at approximate market		1,128,099	1,518,900
Trade receivables:			
Accounts		26,411,818	18,871,333
Notes and installment contracts, including amounts due beyond one year (1977 — \$1,044,383; 1976 — \$483,046) — Note A		1,533,796	1,190,597
Long-term contracts and programs — Notes A and C		17,734,517	13,705,168
Total Receivables		45,680,131	33,767,098
Inventories — Notes A and C			
Work in process and finished products		54,504,788	43,614,015
Raw materials and supplies		14,621,662	10,804,637
Total Inventories		69,126,450	54,418,652
Other current assets		4,069,603	3,403,888
Total Current Assets		123,794,140	100,570,415
Property, Plant, and Equipment — on the basis of cost			
Land		2,869,270	2,877,666
Buildings		27,986,597	27,368,195
Machinery and equipment		62,692,268	59,149,181
		93,548,135	89,395,042
Less allowances for depreciation		49,195,480	45,135,467
Total Property, Plant, and Equipment		44,352,655	44,259,575
Other Assets		2,924,491	2,232,597
Remaining Equity Investment in and Advances to Italian Subsidiary — Note B		—0—	2,938,465
Total Assets		\$171,071,286	\$150,001,052

SEPTEMBER 30

1977

1976

LIABILITIES AND SHAREHOLDERS' EQUITY

Current Liabilities

Notes payable to banks	\$ 1,150,426	\$ 1,303,957
Current portion of long-term debt	473,253	227,474
Accounts payable and accrued expenses	25,641,879	16,370,131
Salaries, wages, other compensation and payroll taxes	8,704,342	7,754,821
Income taxes (including deferred taxes: 1977 — \$64,000; 1976 — \$599,000)	5,196,627	607,833
Total Current Liabilities	41,166,527	26,264,216
Long-Term Debt — Note E	42,195,043	38,849,752
Deferred Income Taxes — Note D	2,335,209	1,868,320
Unfunded Pension Accrual	1,118,708	1,218,708

Shareholders' Equity

Serial Preferred Shares, without par value — Note H		
Authorized — 1,000,000 Shares		
Issued and outstanding Series A \$1.08, cumulative, convertible 62,215 shares (liquidation preference, \$746,580) — No change during either year	808,795	808,795
Common Shares, par value \$1 per share — Note H		
Authorized — 10,000,000 Shares		
Issued and outstanding, excluding 22,500 shares held in treasury. No change during either year	4,410,017	4,410,017
Other capital — No change during either year	10,327,918	10,327,918
Retained earnings — Note E	68,709,069	66,253,326
	<u>84,255,799</u>	<u>81,800,056</u>
Total Liabilities and Shareholders' Equity	<u>\$171,071,286</u>	<u>\$150,001,052</u>

See notes to consolidated financial statements.

**STATEMENT OF
CONSOLIDATED EARNINGS**
Acme-Cleveland Corporation and Subsidiaries

	YEAR ENDED SEPTEMBER 30	
	1977	1976
Revenues:		
Net sales	\$218,191,699	\$194,088,642
Other income	1,512,630	2,330,387
	<u>219,704,329</u>	<u>196,419,029</u>
Cost and expenses:		
Cost of products sold	160,159,308	143,008,384
Selling, administrative, and general expense	38,000,538	38,886,030
Depreciation — Note A	4,817,117	4,925,867
Interest	4,397,038	5,027,068
Loss (gain) on disposition of subsidiaries — Note B	3,000,000	(1,309,363)
Other	577,127	491,327
	<u>210,951,128</u>	<u>191,029,313</u>
	Earnings Before Income Taxes	
	8,753,201	5,389,716
Income taxes — Notes A and D	3,915,000	2,478,000
	Net Earnings	
	<u>\$ 4,838,201</u>	<u>\$ 2,911,716</u>
Net earnings per Common Share — Note J	<u>\$1.08</u>	<u>\$.65</u>

**STATEMENT OF CONSOLIDATED
RETAINED EARNINGS**
Acme-Cleveland Corporation and Subsidiaries

	YEAR ENDED SEPTEMBER 30	
	1977	1976
Balance at October 1	\$ 66,253,326	\$ 65,613,820
Net earnings for the year	4,838,201	2,911,716
Cash dividends:		
Preferred Shares, \$1.08 per share	(67,192)	(67,192)
Common Shares, \$.525 in 1977, \$.50 in 1976	(2,315,266)	(2,205,018)
Balance at September 30	<u>\$ 68,709,069</u>	<u>\$ 66,253,326</u>

See notes to consolidated financial statements.

**STATEMENT OF CHANGES IN
CONSOLIDATED FINANCIAL POSITION**
Acme-Cleveland Corporation and Subsidiaries

	YEAR ENDED SEPTEMBER 30	
	1977	1976
Source of Funds		
From operations:		
Net earnings	\$ 4,838,201	\$ 2,911,716
Items not requiring outlay of working capital:		
Depreciation	4,817,117	4,925,867
Deferred income taxes	466,889	437,280
Total From Operations	10,122,207	8,274,863
Disposals of property, plant, and equipment	202,457	382,616
Increase in long-term debt	4,200,000	27,500,000
Changes in net long-term assets as a result of disposition of foreign subsidiaries	2,938,465	669,194
	<u>17,463,129</u>	<u>36,826,673</u>
Application of Funds		
Dividends paid	2,382,458	2,272,210
Additions to property, plant, and equipment	4,608,876	8,528,286
Reduction of long-term debt	1,083,059	33,372,425
Other	1,067,322	663,642
	<u>9,141,715</u>	<u>44,836,563</u>
Increase (Decrease) in Working Capital	\$ 8,321,414	\$ (8,009,890)
Changes in the Components of Working Capital		
Current assets — increase (decrease):		
Cash	\$ (3,672,020)	\$ 2,191,577
Marketable securities	(390,801)	1,518,900
Trade notes and accounts receivable	11,913,033	(15,725,422)
Inventories	14,707,798	(17,109,458)
Other current assets	665,715	493,849
Current liabilities — (increase) decrease:		
Notes payable to banks	153,531	6,758,415
Current portion of long-term debt	(245,779)	10,287,880
Accounts payable and accrued expenses	(9,271,748)	(565,916)
Salaries, wages, other compensation, and payroll taxes	(949,521)	2,253,354
Income taxes	(4,588,794)	1,886,931
Increase (Decrease) in Working Capital	\$ 8,321,414	\$ (8,009,890)

See notes to consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Acme-Cleveland Corporation and Subsidiaries
September 30, 1977 and 1976

NOTE A—ACCOUNTING POLICIES AND PRACTICES

Acme-Cleveland Corporation and its subsidiaries' accounting and reporting policies conform to generally accepted accounting principles and to industry practices on a consistent basis between years. Significant accounting policies and practices are described below:

CONSOLIDATION — (See Note B)

The consolidated financial statements include the accounts of the Corporation and all of its subsidiaries. Upon consolidation, all significant intercompany items and transactions are eliminated.

Foreign currency exchange losses of \$1,343,000 in 1977 and gains of \$166,000 in 1976 were included in net earnings. Revenues, net losses, and net assets of the foreign subsidiaries approximated \$11,676,000, \$459,000, and \$5,201,000 for 1977 and \$24,259,000, \$1,534,000, and \$5,978,000 for 1976.

TRADE RECEIVABLES — In accordance with industry practice, installment contracts receivable due beyond one year are classified as current assets.

LONG-TERM CONTRACTS — Long-term contracts are accounted for on the percentage of completion method for financial reporting purposes with costs and estimated earnings included in sales when progress is sufficient to estimate final results with reasonable accuracy. When the current contract estimate indicates a loss, provision is made for the total anticipated loss.

INVENTORIES — Inventories are priced at cost (principally last-in, first-out method) not in excess of replacement market. If the first-in, first-out (FIFO) method of determining inventory cost had been used by the Corporation, inventories would have

been \$33,220,000 and \$27,680,000 higher than reported at September 30, 1977 and September 30, 1976, respectively.

During 1976 certain inventory quantities were reduced. This reduction resulted in a liquidation of LIFO inventory quantities carried at lower costs prevailing in prior years as compared with the cost of 1976 purchases, the effect of which increased net earnings by approximately \$1,132,000 or \$.26 per share in 1976.

DEPRECIATION — Depreciation of property, plant, and equipment is computed by the straight-line method. The annual depreciation rates are based on the following ranges of useful lives:

Buildings 20 to 50 years
Machinery

and Equipment 3 to 12 years

Repair and maintenance costs are charged against earnings, while renewals and betterments are capitalized by additions to the related asset accounts. The Corporation and its subsidiaries generally record retirements by removing the cost and accumulated depreciation from the asset and accumulated depreciation accounts, reflecting any resulting gain or loss in earnings.

PENSION EXPENSE — In general, the Corporation's policy is to fund pension cost accrued. Annual pension expense provides for normal cost and amortization of prior service costs over periods of 15 to 40 years.

CANCELLATION CLAIMS —

Revenues from cancellation claims are recognized when final settlement with the customer occurs.

INCOME TAXES — Income taxes were reduced by \$347,000 (\$667,000 in 1976) for the investment tax credit, which is accounted for by the flow-

through method.

Income taxes are provided on worldwide income at the appropriate statutory rates applicable to such income. Since the Corporation plans to finance foreign expansion and operations by reinvestment of the earnings of foreign subsidiaries, no deferred federal income taxes have been provided on approximately \$1,227,000 of the unremitted earnings of such subsidiaries.

The Corporation's Domestic International Sales Corporation (DISC), which receives certain tax benefits under provisions of the Revenue Act of 1971, had unremitted earnings of approximately \$3,003,000 for which federal income taxes have not been provided.

The Corporation has available operating loss carryforwards in West Germany of \$1,200,000 expiring from 1978 through 1981.

NOTE B — LIQUIDATION AND DISPOSAL OF CERTAIN OVERSEAS SUBSIDIARIES

In 1976 the Corporation decided to dispose of its Italian subsidiary either through sale as an operating unit or through liquidation. The Corporation's remaining equity investment in and advances to the Italian subsidiary of \$2,938,465 were classified as a non-current asset in the September 30, 1976 consolidated balance sheet.

During 1977 the Corporation concluded that liquidation would be the most appropriate method for disposition and estimates a pre-tax loss of \$3,000,000. This includes probable losses on sale of assets, current and future expenses of closing the operation and interest expense. The estimated federal income tax benefit is \$2,400,000 resulting in a net loss of \$600,000 or \$.14 a share which has been charged against third quarter 1977 earnings.

During 1976 the Corporation also completed the disposition of the manufacturing operations and facilities of its United Kingdom and Netherlands subsidiaries. These dispositions resulted in after-tax earnings of \$1,356,000 or \$.31 per share in 1976.

Included in 1976 operations are revenues of \$11,619,000 and net losses of \$1,271,000 generated by these subsidiaries prior to their disposition.

NOTE C — LONG-TERM CONTRACTS AND PROGRAMS

Following are the components of accounts receivable from long-term contracts and programs:

	(In Thousands)	
	1977	1976
Billed	\$ 5,978	\$ 8,281
Unbilled costs, fees, and claims:		
Recoverable	11,165	5,264
Retainage	592	160
	<u>\$17,735</u>	<u>\$13,705</u>

Unbilled costs, fees, and claims represent revenue earned but not billable under terms of the related contracts. Substantially all of the amounts will be billed during the succeeding year, as units are delivered and accepted by the customers.

Inventories at September 30, 1977 include production costs of goods currently in process applicable to long-term contracts and programs aggregating approximately \$12,041,000 and \$3,804,000 at September 30, 1977 and September 30, 1976 respectively.

NOTE D — INCOME TAXES

Deferred income taxes are provided to recognize the effect of timing differences between financial and tax reporting, principally relating to depreciation, pension costs and long-term contracts.

Income tax expense is summarized as follows:

	(In Thousands)	
	1977	1976
Federal		
Current	\$1,992	\$1,300
Deferred	780	75
	<u>2,772</u>	<u>1,375</u>
Foreign		
Current	672	1,126
Deferred	(46)	(124)
	<u>626</u>	<u>1,002</u>
State and local	517	101
	<u>\$3,915</u>	<u>\$2,478</u>

The difference between the effective income tax rate and that computed by applying the U.S. federal income tax rate of 48% is summarized as follows:

	1977	1976
Effective rate	44.7%	46.0%
Investment credit	4.0	12.2
Benefits attributable to DISC earnings	— 0 —	4.7
Effect of foreign income taxes	(6.1)	(23.1)
State income taxes	(2.8)	(.9)
Difference between tax and book basis on disposition of foreign subsidiaries	10.9	10.2
Other items	(2.7)	(1.1)
	<u>48.0%</u>	<u>48.0%</u>

NOTE E — LONG-TERM DEBT

	SEPTEMBER 30	
	1977	1976
Loans from banks under revolving credit agreement	\$ 9,425,000	\$10,025,000
11% Senior Notes, maturing in annual installments of \$2,000,000 beginning on April 1, 1979	25,000,000	25,000,000
7.75% Industrial Revenue Bonds maturing in annual installments of \$250,000 beginning on November 1, 1978	2,500,000	2,500,000
Industrial Revenue Serial Bonds maturing in varying		

annual installments through August 1, 1988 (with interest rates ranging from 4.25% — 6.50%)	1,770,000	— 0 —
7.125% Industrial Revenue Term Bonds maturing on August 1, 1996	2,310,000	— 0 —
Lease obligations to the State of Ohio requiring payments (including interest averaging 6%) of approximately \$158,000 annually through December 1, 1980	560,617	679,536
Capitalized leases, interest rates of 11% to 12%, maturing in installments through 1986	371,872	— 0 —
Other notes payable at various rates of 4.0% to 9.5%	730,807	872,690
	<u>42,668,296</u>	<u>39,077,226</u>
Less current portion	473,253	227,474
	<u>\$42,195,043</u>	<u>\$38,849,752</u>

The revolving credit arrangements with a group of banks were revised during the year. Under the terms of this agreement the Corporation has the right to borrow up to \$11,800,000 until September 29, 1978. At that point the remaining revolving credit may be converted into a four year term loan repayable in equal quarterly installments beginning on December 31, 1978. The revolving loans bear interest at the rate of 110% of an amount equal to the prime rate plus 1/4 of 1% (the prime rate at September 30, 1977 was 7-1/4%). Additionally, the revolving credit agreement provides for the payment of a stand-by com-

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Acme-Cleveland Corporation and Subsidiaries
September 30, 1977 and 1976

mitment fee of 1/2 of 1% per annum on the average unused balance and a facility commitment fee of 1/4 of 1% per annum on the total commitment.

The terms of the 11% Senior Notes and the revolving credit agreement require minimum amounts, as defined, of working capital, current assets in excess of current liabilities, and tangible net worth. The agreements also contain certain limitations on the payment of cash dividends and on certain other payments as defined. The amount of unrestricted retained earnings available for dividend purposes was approximately \$5,284,000 at September 30, 1977.

Current installments of long-term debt and capital lease payments in fiscal year 1978 aggregate approximately \$473,000. Subsequent annual installments are as follows:

1979	\$5,326,000	1981	\$4,974,000
1980	\$4,965,000	1982	\$5,025,000

NOTE F — PENSION AND PROFIT SHARING

The Corporation and its subsidiaries have several pension plans, covering substantially all employees. The total pension expense was approximately \$5,315,000 for 1977 and \$4,479,000 for 1976. At the latest valuation date, the actuarially computed value of vested benefits for certain plans as of their respective anniversary dates exceeds the market value of their pension funds by approximately \$27,583,000. For the remaining plans, the market value of their pension funds exceeds the value of vested benefits.

The Corporation and its subsidiaries have several employee profit sharing arrangements in effect. Amounts contributed under such arrangements are based upon the annual earnings of the Corporation and subsidiaries or the respective operating units. Such contributions amounted to \$2,567,000 in 1977 and \$1,685,000 in 1976.

NOTE G — LEASES

During 1977, the Corporation adopted Financial Accounting Standards Board Statement No. 13, "Accounting for Leases." Accordingly, certain equipment leases previously classified as operating leases have now been accounted for as capital leases. As these capital leases are not material in relation to financial position or results of operations, the cumulative effect of capitalizing these leases is included in net earnings for the

Land	\$ 296,662
Buildings	4,910,713
Machinery and equipment	3,594,911
	<u>8,802,286</u>
Less allowance for depreciation and amortization	1,878,431
	<u>\$6,923,855</u>

Future minimum lease payments under capital leases, municipal obligations, and noncancelable operating

current year.

In addition to the capital leases described above, the Corporation has followed the policy of capitalizing leased facilities financed by municipal obligations. These leases cover land, buildings, and equipment which are used in manufacturing, warehousing, and research operations. Property, plant, and equipment includes the following amounts for all capital leases at September 30, 1977:

leases with initial or remaining terms of one year or more consisted of the following at September 30, 1977:

	Capital Leases		Operating Leases
	Municipal Obligations	Other	
1978	\$ 252,413	\$182,417	\$ 936,460
1979	515,907	97,130	720,279
1980	529,401	86,519	443,367
1981	542,896	71,514	332,969
1982	400,000	18,533	261,960
Thereafter	4,900,000	6,120	—0—
Total Minimum Lease Payments	7,140,617	462,233	<u>\$2,695,035</u>
Amounts Representing Interest	—0—	(90,361)	
Present Value of Minimum Lease Payments	<u>\$7,140,617</u>	<u>\$371,872</u>	

The total rental expense for all operating leases was \$966,616 for

1977 and \$1,021,492 for 1976.

NOTE H — CAPITAL STOCK

STOCK OPTIONS — Stock option plans authorize the issuance of Common Shares to key employees at not less than the market price on dates of grant. The options, which may be qualified or non-qualified, become exercisable over a period of five years, beginning one year after date of grant. At September 30, 1977, options for

56,300 shares (20,750 shares at September 30, 1976) were exercisable and 257,800 shares (7,800 shares at September 30, 1976) were available for future options. During 1977, a non-qualified stock option plan was approved by the Shareholders for a maximum of 250,000 common shares.

A summary of the changes in outstanding stock options follows:

	Shares	Option Price	
		Per Share	Aggregate
Outstanding at October 1, 1975	33,200	\$14.50 to \$14.75	\$ 485,550
Granted	109,000	8.81	960,563
Outstanding at September 30, 1976	142,200	\$ 8.81 to \$14.75	\$1,446,113

(No change during fiscal 1977)

PREFERRED SHARES—The Series A Preferred Shares have voting rights on a share-for-share basis with the Common Shares, asset preference upon liquidation or dissolution of \$12 per share, the right to convert the shares on a share-for-share basis into Common Shares, and the Corporation has the right after June 30, 1979, to redeem the shares at a price of \$13 per share.

RESERVED SHARES—462,215 Common Shares are reserved for issuance under the stock option plan and the conversion rights of the Preferred Shares.

NOTE I—CONTINGENCIES

Under the provisions of certain sales contracts with several major foreign customers, the Corporation is required to guarantee compliance with contract provisions by obtaining letters of credit. Outstanding letters of credit under such contracts approximated \$1,412,000 at September 30, 1977. The Corporation expects to continue to comply with all contract provisions, and no material losses are anticipated under these guarantees.

NOTE J—EARNINGS PER SHARE

Net earnings per common share are based on the weighted average number of Common Shares outstanding after recognition of dividends paid on convertible Preferred Shares. Fully diluted earnings per share would not be materially different from net earnings per share as reported if stock options (common stock equivalents) and all outstanding Preferred Shares were assumed to be converted to Common Shares.

NOTE K—REPLACEMENT COST (UNAUDITED)

The overall effect of inflation on the Corporation has the effect of requiring a substantially higher capital invest-

ment to replace plant and equipment than the value of those assets as reported in the financial statements. On the other hand, to some extent, these inflationary increases have been offset by price increases, manufacturing controls and technological improvements. Because the Corporation uses the last-in, first-out method for valuing most inventories, the effect of replacement cost on cost of products

NOTE L—QUARTERLY RESULTS OF OPERATIONS (UNAUDITED)

The following is a tabulation of the unaudited quarterly results of oper-

	Three Months Ended			
	Dec. 31	Mar. 31	Jun. 30	Sep. 30
(Thousands of dollars, except per share data)				
Net sales	\$45,333	\$53,195	\$61,107	\$58,557
Gross profit	11,074	13,972	15,551	15,179
Net earnings	128	1,171	1,134	2,405
Net earnings per common share	\$.03	\$.26	\$.25	\$.54

REPORT OF INDEPENDENT AUDITORS

To the Board of Directors
Acme-Cleveland Corporation
Cleveland, Ohio

We have examined the consolidated balance sheet of Acme-Cleveland Corporation and subsidiaries as of September 30, 1977 and 1976, and the related consolidated statements of earnings, retained earnings, and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our report dated November 30, 1976, our opinion on the 1976 financial statements was qualified as being subject to the effects of the disposition of the Corporation's Italian subsidiary. As explained in Note B, the

sold is not significant.

Specific information with respect to replacement costs as at the end of the 1977 fiscal year and their impact on the cost of products sold and depreciation is included in the Corporation's Form 10-K report, which is filed with the Securities and Exchange Commission. A copy of this report is available upon written request to the Secretary of the Corporation.

ations for the fiscal year ended September 30, 1977:

cost of disposition of the subsidiary has been charged to operations in the current year as required by generally accepted accounting principles. Accordingly, our present opinion on the 1976 financial statements, as presented herein, is different from that expressed in our previous report.

In our opinion, the financial statements referred to above present fairly the consolidated financial position of Acme-Cleveland Corporation and subsidiaries at September 30, 1977 and 1976, and the consolidated results of their operations and changes in their financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Ernst & Ernst

Cleveland, Ohio
November 21, 1977

E&E

ACME-CLEVELAND CORPORATION OPERATIONS

CLEVELAND TWIST DRILL COMPANY

ROBERT A. HARVEY, *President*

Cutting and Threading Tools, Cleveland, Ohio;
Mansfield, Massachusetts; Providence,
Rhode Island; Kent, Washington

Cleveland Twist Drill Canada Ltd.,
Rexdale (Toronto), Ontario, Canada

Cleveland Twist Drill GmbH,
Loffingen, West Germany

Herramientas Cleveland S.A.,
Pachuca, Mexico

Licensee:

Clarkson International Tools, Ltd.,
Nuneaton, England

NATIONAL ACME DIVISION

CHARLES W. CLARK, *President*

Machine Tools, Cleveland, Ohio

Licensees:

Alfred Herbert Limited, Coventry, England

Mitsubishi Heavy Industries, Ltd., Tokyo, Japan

LaSALLE MACHINE TOOL, INC.

ROBERT I. SATTLER, *President*

Manufacturing Systems, Troy, Warren,
Fenton and Davisburg, Michigan

LaSalle Machine Tool of Canada Ltd.,
Windsor, Ontario

Licensee:

Metalexport, Warsaw, Poland

SHALCO SYSTEMS DIVISION

HERBERT VON WOLFF, *President*

Foundry Systems and Equipment, Cleveland, Ohio;
Kewanee, Illinois; Port Huron, Michigan

Shalco Systems — Acme-Cleveland GmbH,
Shalco Systems Maschinen Und Service,
Homborg/Ohm, West Germany

Licensee:

Roterid Companhia Mecanica,
Sao Paulo, Brazil

FOUNDRY TOOLING DIVISION

WENDELL M. DOOLIN, *President*

Foundry Tooling — core boxes, patterns
and fixtures; permanent and semi-permanent
molds and related equipment.

Automotive Pattern, Detroit, Michigan

Bluewater Tooling, Port Huron, Michigan

Foundry Tooling,
Homborg/Ohm, West Germany

NAMCO CONTROLS DIVISION

NORMAN E. SWANSON, *President*

Electrical and Electronic Controls,
Cleveland, Mentor and Jefferson, Ohio

Licensees:

Herbert Sigma Ltd.,
Letchworth, Hertfordshire, England

Fritz Dienes GmbH, Muhlheim, West Germany

ACME-CLEVELAND DEVELOPMENT COMPANY

ROBERT L. NEKOLA, *General Manager*

Research and Development,
Highland Heights, Ohio



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